REMARKS

The application has been reviewed in light of the Office Action dated August 14, 2003 and the Advisory Action dated November 24, 2003. Claims 11-14 and 29-52 are pending. Claims 1-10 and 15-28 were previously canceled, without prejudice or disclaimer. By this Amendment, Applicants have amended claim 43, to convert claim 43 into independent form. Accordingly, claims 11, 29, 42, 43, 45 and 49 are the pending independent claims in the application.

The Office Action states that the reissue declaration is defective because the declaration does not provide Applicants' citizenship, does not provide Applicants' post office address, and does not list the foreign applications from which a claim of benefit of an earlier filing date in a foreign country is made.

The present application is an application for reissue of U.S. Patent No. 5,870,370, which issued February 9, 1999 from application Serial No. 08/895,511, filed July 16, 1997, which in turn is a continuation of Serial No. 08/311,050, filed September 23, 1994.

Pursuant to the Examiner's request, Applicants retransmitted by facsimile on August 13, 2003 the Declaration and the Claim For Priority submitted by Applicants in Serial No. 08/311,050. All of the requested information are contained in the Declaration and the Claim For Priority retransmitted on August 13, 2003 to the Patent Office. Accordingly, withdrawal of the objection to the declaration is requested.

If additional information is required, Applicants request the Examiner to call the undersigned.

Notice is taken that claims 11-14 are allowed and claim 43 would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Claim 43 has been amended hereinabove by converting claim 43 into independent form, including all of the features recited in independent claim 42 from which claim 43 formerly depended directly.

Claims 29 and 31-39 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 4,624,526 to Tsukai in view of U.S. Patent No. 5,428,596 to Hineno et al. Claim 30 was rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Tsukai in view of Hineno and further in view of U.S. Patent No. 5,136,152 to Lee. Claims 40 and 41 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Tsukai in view of Hineno and further in view of U.S. Patent No. 4,804,835 to Ando. Claims 42 and 44-52 were rejected under 35 U.S.C. §103(a) as purportedly unpatentable over the cited art.

Applicants have carefully considered the Examiner's comments and the cited art, and respectfully submit that independent claims 29, 42, 45 and 49 are patentable over the cited art, for at least the following reasons.

This application relates to optical pickup apparatuses that have the qualities of being small-sized and light weight and are capable of eliminating the effects of flaring light rays and performing signal detection with high reliability. A number of features, which are mixed and matched in the various exemplary embodiments described in the application, contribute to these qualities.

For example, each of independent claims 29 and 42 relates to an optical disc apparatus which comprises a light source, an objective lens, a quarter-wave plate, a flux separating element and a light-receiving element, wherein the objective lens focuses light ray flux emitted from the light source on an optical recording medium, the

quarter-wave plate is located between the light source and the optical recording medium, the flux separating element is configured to separate light rays reflected on the optical recording medium from an optical axis of incident light rays, and the light-receiving element is positioned adjacent the light source and at a front side thereof for detecting a signal from the reflection light rays.

In addition, according to claim 29, the flux separating element includes a uniaxial crystal with a discontinuous surface disposed in an optical path between the light source and the objective lens, and according to claim 42, the flux separating element is disposed in a divergent optical path between the light source and the quarter-wave plate, and the light source and the light-receiving element are formed in a single stem.

The cited art does not disclose or suggest such optical disc apparatuses.

Tsukai is cited in the Office Action as the primary reference for rejecting the claims under 35 U.S.C. §103(a). Tsukai, as understood by Applicants, relates to an optical pickup device wherein a diffraction grating or a hologram is used instead of a prism for directing a read-out light beam emitted by a light source to the surface of a recording medium and separating a reflection beam reflected by the surface of the recording medium from the read-out beam.

Applicants do not contest that Tsukai discloses conventional use of a Wollaston prism. However, Applicants maintain that the Office Action acknowledges that Tsukai does not teach or suggest use of a uniaxial crystal.

Moreover, Tsukai points out that use of prisms such as the Wollaston prism has several disadvantages. Tsukai states at column 2,

line 61 through column 3, line 8, as follows:

> It will be seen from the foregoing, that, in both of the conventional pickup systems shown in FIGS. 1 and 2, a prism (even though their types are different) is used for the purpose of separating the reflection light beam from the incident light beam produced by a light source. **Several disadvantages have arisen from the use of the prism.** Especially, in the case of the half prism of the pickup system of FIG. 1, the angular difference between the incident light beam and the light beam emerging from this prism is as large as 90°. Due to this large angular difference, it was difficult to reduce the size (especially the width) of the pickup system. On the other hand, in the case of the pickup system of FIG. 2, **the drawback was that the Wollaston prism is expensive and the use of this type of prism has resulted in a high production cost of the pickup system**.

Therefore, it is abundantly clear that Tsukai actually teaches away from the use of a Wollaston prism, and Tsukai's teachings thereby direct one skilled in the art away from use of a uniaxial crystal. As well established by the relevant case law, each reference must be considered for all that it taught, including disclosures that diverge or teach away from the claimed invention of the subject application. [see, for example, In re Dow Chemical Co., 837 F.2d 469 (Fed.Cir. 1988)] In addition, it is impermissible within the framework of 35 U.S.C. §103 to pick and choose from a reference only so much as would support the position for a claim rejection, to the exclusion of other parts of the reference which teach away from the patent claim under consideration and would be considered for a full appreciation of what the reference fairly suggests to one skilled in the art. In re Hedges, 783 F.2d 1038 (Fed.Cir. 1986).

Accordingly, since Tsukai teaches away from use of a Wollaston prism and a uniaxial crystal, it would not have been obvious to make the modification suggested in the Office Action in view of the teachings of Tsukai as a whole.

Accordingly, Tsukai, taken alone or considered along with the other cited references, simply does not render independent claims 28, 29

45 or 49 obvious, unless impermissible hindsight is used to reconstruct the claimed invention by using the claims as a roadmap for picking and choosing elements of the prior art, without considering the teachings of the cited art as a whole.

Similarly, although Fig. 4 of Tsukai shows a photodetector 25 and a laser source 21 positioned side-by-side, with a small angular difference between the light beam radiated from the light source and the reflection beam applied to the photodetector, Tsukai makes it clear that the small angle is facilitated by use of a diffraction grating which does not use a quarter-wave plate. Therefore, it would not have been obvious to combine the apparatus shown in Fig. 4, which uses a diffraction grating, with the conventional apparatus shown in Fig. 2 which uses a Wollaston prism.

Accordingly, an optical pickup apparatus which comprises a light source, an objective lens, a quarter-wave plate, a flux separating element and a light-receiving element, wherein the objective lens focuses light ray flux emitted from the light source on an optical recording medium, the quarter-wave plate is located between the light source and the optical recording medium, the flux separating element is configured to separate light rays reflected on the optical recording medium from an optical axis of incident light rays, the light-receiving element is positioned adjacent the light source and at a front side thereof for detecting a signal from the reflection light rays, the flux separating element is disposed in a divergent optical path between the light source and the quarter-wave plate, and the light source and the light-receiving element are formed in a single stem, would not have been obvious from reading Tsukai.

Hineno, as understood by Applicants, discloses an optical pickup

apparatus which includes a laser diode as a light source, an object lens which converges light fluxes on a signal recording surface, and a beam splitter disposed in an optical path between the light source and the object lens. Hineno was cited in the Office Action for its disclosure of a three-beam Wollaston prism formed by a pair of triangular prisms, each of which is a uniaxial crystal of quartz, rutile or calcite and which are bonded to one another to form a rectangular-shaped prism.

However, the Wollaston prism of Hineno is not disposed in an optical path between the light source and the object lens, and therefore does not separate light rays reflected on the signal recording surface from the optical axis of incident light rays.

Lee was cited in the Office Action for its disclosure of a collimating lens 850 located between a beam splitter 840 and a disk surface 880.

Ando was cited in the Office Action for its disclosure of an objective lens driver circuit 81 which can be moved in a focusing direction or returned to an initial position.

Applicants find no disclosure or suggestion by the cited art, however, of an optical disc apparatus which comprises a light source, an objective lens, a quarter-wave plate, a flux separating element and a light-receiving element, wherein the objective lens focuses light ray flux emitted from the light source on an optical recording medium, the quarter-wave plate is located between the light source and the optical recording medium, the flux separating element is configured to separate light rays reflected on the optical recording medium from an optical axis of incident light rays, the light-receiving element is positioned adjacent the light source and at a front side thereof for detecting a

signal from the reflection light rays, and the flux separating element includes a uniaxial crystal with a discontinuous surface disposed in an optical path between the light source and the objective lens, as provided by independent claim 29. Therefore, the cited art does not render claim 29 unpatentable.

Independent claims 45 and 49 are believed to be patentable over the cited art for at least similar reasons.

Applicants find no disclosure or suggestion by the cited art of an optical pickup apparatus which comprises a light source, an objective lens, a quarter-wave plate, a flux separating element and a light-receiving element, wherein the objective lens focuses light ray flux emitted from the light source on an optical recording medium, the quarter-wave plate is located between the light source and the optical recording medium, the flux separating element is configured to separate light rays reflected on the optical recording medium from an optical axis of incident light rays, the light-receiving element is positioned adjacent the light source and at a front side thereof for detecting a signal from the reflection light rays, the flux separating element is disposed in a divergent optical path between the light source and the quarter-wave plate, and the light source and the light-receiving element are formed in a single stem, as provided by independent claim 42.

If a petition for an additional extension of time is required to make this response timely, this paper should be considered to be such a petition, and the Commissioner is authorized to charge the requisite fees to our Deposit Account No. 03-3125.

The Office is hereby authorized to charge any fees that may be required in connection with this amendment, and to credit any

overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Reconsideration and allowance of this application are respectfully requested.

Respectfully submitted,

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